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- 25 4. An energy generating system according to claim 1,

wherein

said front stage reaction means comprises a reaction composition control means for control the reaction product or composition rates of the reaction product, wherein

5 a root pipe connected to a reaction product output port of said front stage reaction means is branched into at least two conveying pipes,

at least one of said conveying pipes being connected to said rear stage reaction means,

10 said energy generating system comprising a use pipe selecting means,

said use pipe selecting means switching said conveying pipe to be used using information from said reaction composition control means.

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5. An energy generating system according to claim 1, wherein

said front stage reaction means comprises an energy converting means for converting electric energy to
20 mechanical power or mechanical power to electric energy.

6. An energy generating system according to claim 1, wherein

said front stage reaction means and said rear
25 reaction means are connected to each other through a heat

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transfer means.

7. An energy generating system according to claim 1,
wherein

5 said front stage reaction means is a heat engine, and
said rear stage reaction means is a fuel battery.

8. An energy generating system according to claim 7,
wherein

10 said heat engine performs said front reaction in a
steam atmosphere using water supplied from a water supply
means.

9. An energy generating system according to claim 7,
15 wherein

said heat engine is an internal combustion engine,

said internal combustion engine comprising a fuel
injection valve,

a reaction composition control means controlling an
20 amount of fuel injected from said fuel injection valve.

10. An energy generating system according to claim 7,
wherein

said heat engine is an internal combustion engine,

25 said internal combustion engine comprising a variable

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said energy generating system comprises a low temperature heat transfer means for heating a raw material to be injected into said heat engine using generated heat accompanied by electric generation of said fuel battery, or a high temperature heat transfer means for heating the raw

material to be injected into said heat engine using exhaust heat of said heat engine itself.

13. An energy generating system according to claim 7,
5 which comprises:

a heating means for heating a raw material to be injected into said heat engine; and

a fuel selecting means between said heat engine and said fuel battery, wherein

10 said fuel selecting means selecting reaction fuel to be supplied to said fuel battery and heating fuel to be supplied to said heating means,

said heating means using said heating fuel as fuel of said heating means.

15 14. An energy generating system according to claim 7, which comprises:

a heating means for heating a raw material to be injected into said heat engine; and

20 a fuel collecting means in a reaction product output port of said fuel battery, wherein

said heating means uses un-reacted fuel in said fuel battery collected by said fuel collecting means as fuel of said heating means.

said internal combustion engine comprises an intake pipe for transporting a raw material, and

$$L_1 < L_2 < L_3$$

where L1 is a distance of said intake pipe of said internal combustion engine along said heating means, L2 is a distance of said intake pipe of said internal combustion engine along said high temperature heat transfer means, and L3 is a distance of said intake pipe of said internal combustion engine along said low temperature heat transfer means.

15 16. An energy generating system according to any one of
claim 12 and claim 13, wherein

said heating means controls an amount of the supplied heat in order to heat the injected raw material to a target temperature indicated by a temperature control means by changing a supply ratio of un-reacted fuel components from said fuel battery and exhaust substances from said fuel selecting means.

17. An energy generating system according to claim 7,
wherein

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CONT. 5

said heat engine is an internal combustion engine,
said energy generating system transferring heat
generated by said fuel battery to said internal combustion
engine, or heat generated by said internal combustion
engine to said fuel battery,

said heating means heating the raw material to be
injected to said internal combustion engine,

10 said energy generating system comprising a
temperature control means for said internal combustion
engine and said fuel battery,

15 said temperature control means controlling amounts of
heat of said heat transfer means and said heating means and
an amount of supplied fuel so that temperature in a
reaction chamber of said internal combustion engine just
before ignition may become a temperature above a self-
ignition temperature of the raw material under an
atmosphere in said reaction chamber,

20 said temperature control means controlling amounts of
heat of said heat transfer means and said heating means and
an amount of supplied fuel so that temperature of fuel to
be supplied to said fuel battery may become an operating
temperature of said fuel battery.

18. An energy generating system according to claim 17,
25 wherein

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said temperature control means comprises an internal combustion engine control means for controlling said internal combustion engine,

5 said internal combustion engine control means receiving intake raw material temperature information transmitted from said temperature control means,

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10 said internal combustion engine control means controlling an amount of produced fuel to be supplied to said fuel battery using any items of information on an equivalent ratio, a compression ratio, a compression history, a cooling water temperature, a lubricant oil temperature, a lubricant oil pressure, an intake gas flow rate and a compression speed.

15 19. A vehicle mounting the energy generating system according to claim 7, which comprises

a motor for converting electric power obtained from said fuel battery to mechanical power, wherein

20 an output shaft of said motor and a mechanical power output shaft of said heat engine are connected to a wheel shaft through a mechanical transmission element.

20. A vehicle mounting the energy generating system according to claim 7, which comprises

25 an electricity storing means for storing direct

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